

REMARKS

Introduction

In response to the final Office Action dated February 14, 2011, the following remarks are respectfully submitted for entry and consideration. Claims 1 – 32 are pending herein. Claims 12 – 14 and 30 – 32 stand withdrawn from consideration. Claims 1-11 and 15-29 stand rejected.

With the present Reply, Applicants amend claim 1 to further recite a median particle size of less than 1 micron. Support for this amendment can be found on page 4, line 29 through page 5, line 8 of the specification. Specifically, on page 5, line 1 the term “average particle size” is determined by both Dv50 (median) and Z-average (average) parameters.

Reconsideration is respectfully requested. No new matter is added.

Rejection of Claims 1-11, 15, and 19-29 Under 35 U.S.C. §103(a) – Hacker et al./Nabors et al.

Claims 1-11, 15, and 19-29 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Hacker et al. in view of Nabors et al. The Examiner contends that Hacker et al. disclose a dispersion concentrate mixture that is ground to a fineness of below 5 microns and therefore it would be obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable diameter sizes for the mesotrione that produce expected results.

As previously noted, the problem addressed by the present invention is the provision of a suspension concentrate or suspoemulsion formulation comprising mesotrione which exhibits improved physical storage stability, handling and in particular dilution characteristics. This problem is solved by the present invention by providing such a formulation wherein the mesotrione therein has an average and median particle size of less than 1 micron.

Hacker et al. (Hacker) disclose 3-way (component A, B and C) herbicide combinations comprising specific sulfonylurea herbicides. Component C may be one of 57 compounds, of which mesotrione just happens to be one (compound C8). Hacker further discloses that the herbicidal composition may (amongst others) be provided as a suspension concentrate (SC) or a suspoemulsion (SE).

Nabors et al. disclose herbicidal synergistic compositions containing a combination of an acetamide herbicide and a lipophilic additive suitable for controlling weeds in crops of cultivated plants. The Examiner relies on the selectivity of Nabors et al.’s herbicides which include an acetamide herbicide and a co-herbicide such as mesotrione.

Even when considered as a whole, the combination of Hacker et al. and Nabors et al. fails to teach or suggest a suspension concentrate or suspoemulsion comprising mesotrione or an agriculturally active compound having an average particle size of less than 1 micron and a median particle size of less than 1 micron.

With regard to the Examiner's contentions regarding the experiments and data referred to in Table 2 (see Page 14, Office Action dated February 14, 2011), Applicants note that Table 2 illustrates the redispersion properties of sediment material and how these are improved when sub-micron mesotrione is used. In the sediment, the particle phase volume is very high and the redispersibility is not governed by particle size *per se*. While Applicants agree that a smaller particle size is known to enhance dispersibility of such particles, more time is required for the smaller particles to settle from the dispersion. Once settled, however, smaller particles are generally more difficult to re-disperse. As shown, for example, in Table 1 of the specification, the composition of the present invention is easier to re-disperse than a similar composition having larger particles. This result is both surprising and unexpected. The unexpected result is, in fact, within the scope of the claimed invention in that the data is commensurate with the limitation of an agriculturally active compound having an average particle size of less than 1 micron and a median particle size of less than 1 micron.

For the foregoing reasons, Hacker et al. and Nabors et al. not only fail to relate to the problem solved by the presently claimed composition but Hacker and Nabors et al. do not suggest or predict the basis of the instant technical success. Withdrawal of the rejection is respectfully requested.

Rejection of Claims 1, 2, 8-11, 15, 16, and 29 Under 35 U.S.C. §103(a) – Hacker et al./Hopkinson et al.

Claims 1, 2, 8-11, 15, 16, and 19-29 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Hacker et al. in view of Hopkinson et al. Again, the Examiner contends that it would be obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable diameter sizes for the mesotrione that produce expected results.

For the reasons set forth above, Hacker et al. do not teach or suggest the subject matter of the instant claims. Hopkinson et al. do not cure the deficiencies of Hacker et al. While Hopkinson et al. may generally disclose milling a slurry of an agriculturally active compound to a desired particle size, neither Hacker et al. or Hopkinson et al. specifically provide any suggestion or

motivation regarding choosing mesotrione, much less an agriculturally active compound having an average particle size of less than 1 micron and a median particle size of less than 1 micron.

The obviousness rejection is further based on the premise that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by experimentation. Thus, the Examiner's arguments hinge on the requirement that the cited references actually teach a workable range. In the instant case, the range disclosed by Hopkinson et al. is a particle size of about 1 micron to about 20 micron which is outside the claimed range. If the inventors of Hopkinson et al. had expected success at a particle size of less than 1 micron, a lower data limit of less than 1 micron would have been disclosed. Thus, the workable range and claimed range are not commensurate in scope and the premise of the obviousness rejection is further flawed.

For the foregoing reasons, Hacker et al. and Hopkinson et al. cannot render obvious claims 1, 2, 8-11, 15, 16, and 19-29. Withdrawal of the rejection is respectfully requested.

Rejection of Claims 1, 6-11, 15, 17, and 18 Under 35 U.S.C. §103(a) – Hacker et al./Cornes et al.

The Examiner presents a "maintained" rejection of claims 1-13 under 35 U.S.C. §103(a) as being unpatentable over Kimura in view of Mayer et al. and further in view of Deming et al. Since this rejection was, in fact, not previously presented, Applicants assume the Examiner intended to maintain the rejection of claims 1, 6-11, 15, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over Hacker et al. in view of Cornes et al. The Examiner previously cited Cornes et al. for the proposition that Cornes et al. would suggest utilization of mesotrione chelates in herbicide compositions.

The combination of Hacker et al. and Cornes et al. does not render claims 1, 6-11, 15, 17, and 18 obvious for at least the reason that the combination of references does not teach or suggest submicron mesotrione suspension concentrates or suspoemulsions. Further, the combination of references fails to teach or suggest that submicron mesotrione improves physical storage stability, handling and in particular dilution characteristics. Withdrawal of the rejection of claims 1, 6-11, 15, 17, and 18 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

In view of the above remarks, Applicants submit that the present claims are allowable over the cited art. Withdrawal of all rejections is respectfully requested, along with issuance of a Notice of Allowance. Applicants invite the Examiner to telephone the undersigned attorney of record if the Examiner feels that the call will be beneficial to advance prosecution of the application.

Respectfully submitted,

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